



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

✓

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/370,373	08/10/1999	ERWIN HACKER	514413-3766	8023
20999	7590	04/18/2005		
FROMMERM LAWRENCE & HAUG			EXAMINER	
745 FIFTH AVENUE- 10TH FL.			CLARDY, S	
NEW YORK, NY 10151				
			ART UNIT	PAPER NUMBER
			1617	

DATE MAILED: 04/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/370,373	HACKER ET AL.
	Examiner S. Mark Clardy	Art Unit 1617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 31 January 2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 16-20,22-27,29-34 and 37-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 16-20,22,23 and 39-42 is/are allowed.
- 6) Claim(s) 24-27,29-34,37 and 38 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 - 1) Certified copies of the priority documents have been received.
 - 2) Certified copies of the priority documents have been received in Application No. _____.
 - 3) Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/31/05</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____. |

Claims 16-20, 22-27, 29-34, and 37-42 are pending in this application.

Applicants' claims are drawn to compositions and methods of using herbicidal compositions comprising the synergistic combination of A + B herbicides (see exceptions in the claim 16 proviso):

A) a broad spectrum herbicide

- A1: glufosinate
- A2: glyphosate
- A3: imidazolinones
- A4: protoporphyrinogen oxidase (PPO) inhibitors;
- A5: cyclohexanedione oxime herbicides
- A6: heteroaryloxyphenoxypropionic acid herbicides

B) a second herbicide:

- B1 cyanazine, atrazine, terbutylazine, acetochlor, metolachlor, alachlor, terbutryn, benoxacor, nicosulfuron, rimsulfuron, primisulfuron, dimethenamid, fluthiamide, sulcotrione, simazine, mesotrione, pentoxamid
- B2 pendimethalin, pyridate, iodosulfuron, metosulam, isoxaflutole, metribuzin, cloransulam, flumetsulam, linuron, florasulam isoxachlortole
- B3 bromoxynil, dicamba, 2,4-D, clopyralid, prosulfuron, thifensulfuron, carfentrazone, tritosulfuron, MCPA, halosulfuron, diflufenzoxypr, sulfo-sulfuron.

Again, in Paper No. 12, applicant elected with traverse of the species comprising:

A1.2 glufosinate-ammonium¹ and

B1.16 mesotrione².

¹Ammonium 2-amino-4-(hydroxymethylphosphinyl)butanoate

² 2-[4-(methylsulfonyl)-2-nitrobenzoyl]-1,3-cyclohexanedione

The elected species had been previously expanded to include glufosinate (A1) in combination with any of the recited secondary herbicides. Glyphosate (A2) has also now been included in the scope of the examined claims.

The amendment filed with the RCE on January 31, 2005, avoids the compositions disclosed in the prior art discussed in the specification.

Claim 25 is objected to because of the following informalities: compounds A2.1 and A2.2 are both IPA-glyphosate. Comparing with claim 17, compound A2.1 should be glyphosate acid. See also the designations in Tables 19 and 20. Appropriate correction is required.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 24, 25, 27, 30, and 34 are rejected under 35 U.S.C. 102(a) and (b) as being anticipated by Gimesi et al (US 4,445,927).

Gimesi et al teach the synergistic combination of glyphosate acid (applicants' A2.1), or C₁₋₄ alkylamine salts thereof, in combination with arylacetic acid herbicides such as 2,4-D (applicants' B3.3; abstract, col 1, lines 30-49). By combining glyphosate with 2,4-D, the concentration of glyphosate may be considerably reduced (col 1, lines 21-27). Synergism is shown for the combination of glyphosate with 2,4-D (A+E) in Table 1 (col 3).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1617

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 24, 25, 27, 29, 30, 33, 34, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gimesi et al.

Gimesi et al has been discussed above. This reference does not disclose the further combination with additional active agents (as claimed in claims 29 and 33). However, it is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose in order to form a third composition that is to be used for the very same purpose; the idea of combining them flows logically from their having been individually taught in the prior art. In re Kerkhoven, 205 USPQ 1069. Gimesi et al does not specifically teach the IPA salt of glyphosate as claimed in claim 38; however, this specific salt is a very well known salt of glyphosate which falls within the limited disclosure of the C₁₋₄ alkylamine salts of glyphosate which are specifically recited in Gimesi et al. Applicants' data in Table 20 shows a synergistic effect for 2,4-D + glyphosate (misidentified in the Table as compound A1.2); however, such an effect is taught in Gimesi et al.

Claims 24-27, 29-34, 37, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Gimesi et al or Lee et al (US 6,586,367), further in view of Anderson³.

Gimesi et al has been discussed above, and teaches the synergistic combination of glyphosate with secondary herbicides such as 2,4-D.

³ Anderson. *Weed Science: Principles and Applications*. 3rd ed. Chapters 12 ("Acid Amide Herbicides"). 19 ("Growth Regulator-Type Herbicides") and 27 ("Triazine Herbicides"). p. 165-170, 193-199, 232-239. 1996.

Lee et al teach the synergistic combination of phospho-herbicides such as glufosinate and glyphosate with additional herbicidal agents including prosulfuron, primisulfuron, dicamba, pyridate, dimethenamide, metolachlor, atrazine, clodinafop, terbutylazine, and simazine, among others (abstract), in maize crops (columns 1, 3, and 5). Thus the combination of glyphosate or glufosinate with herbicides within applicants' B classes is obvious. It would have been within the skill level of the ordinary artisan to select additional related herbicides to combine with glufosinate for the control of weeds in crops such as maize. Further, it is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose in order to form a third composition that is to be used for the very same purpose; the idea of combining them flows logically from their having been individually taught in the prior art. In re Kerkhoven, 205 USPQ 1069. One of ordinary skill in the art would have the requisite skill to select appropriate secondary herbicides based upon the known herbicidal spectrum of activity of the second herbicide to enhance the herbicidal utility of the combination.

Anderson teaches that herbicides may be grouped in classes according to their chemical structure and mode of action, such as the acid amide herbicides (acetochlor, metolachlor, alachlor, etc.), growth regulator type herbicides (2,4-D and other phenoxycarboxylic herbicides), and the triazine herbicides (atrazine, simazine, cyanazine, etc.). One of ordinary skill in the art would be motivated to combine Gimesi et al or Lee et al with Anderson because Anderson discloses specific characteristics of the subject herbicides disclosed in the primary references. In view of the related structures within each class of herbicides, and the resultant common activities, it would be *prima facie* obvious to select herbicides which are related to those which have been demonstrated to possess synergistic activity, but are explicitly disclosed in the prior

Art Unit: 1617

art (and hence, removed from the claims by way of a proviso statement). Further, in view of the synergistic results disclosed in Gimesi et al and Lee et al, it would appear that data demonstrating synergistic results for these glyphosate or glufosinate combinations would be expected.

Claims 16-20, 22, 23, and 38-42, are allowable over the cited prior art.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Mark Clardy whose telephone number is 571-272-0611. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreenivasan Padmanabhan can be reached on 571-272-0629. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



S. Mark Clardy
Primary Examiner
Art Unit 1617

April 4, 2005